



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,789	07/17/2003	Takahiro Sasaki	2803.68200	1657

7590 06/23/2004

Patrick G. Burns  
Greer, Burns & Crain, Ltd.  
Suite 2500  
300 South Wacker Drive  
Chicago, IL 60606

EXAMINER

DUDEK, JAMES A

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 06/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/621,789		SASAKI ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	James A. Dudek		2871	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 14-17 and 28-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 28-32 is/are allowed.
- 6) ☒ Claim(s) 14-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. parent.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____.  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____.  | 6) <input type="checkbox"/> Other: ____.                                    |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. “[M]eans for forming boundary alignment comprise partial transverse enlargement of the alignment control structures” lacks the proper antecedent basis and is unclear. As a result the examiner will not be able to examine this limitation.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 14 is rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 6567144 (“144”).

In re claim 14, 144 teach a pair of substrates having electrodes and vertical alignment layers [200,20,25]; a liquid crystal having a negative anisotropy of dielectric constant and inserted between the pair of substrates [see figure 7]; alignment control structures arranged in each of said pair of substrates for controlling alignment of the liquid crystal [17,27]; each of said alignment control structures comprising a plurality of constituent units of the alignment control structures of one substrate [see figures 6a and 6b] and the constituent units of the alignment control structures of the other substrates being arranged alternately on one line, as viewed in the direction normal to the one substrate [see figures 6a, 6b and 7].

Art Unit: 2871

In re claim 15, see linearly arrange structures shown in figures 6a and 6b.

In re claim 16, see pixel unit 20 and the symmetry of the units within the pixel shown in figures 6a and 6b.

***Allowable Subject Matter***

Claims 28-32 are allowed.

In re claims 28-30, the prior art of record fails to teach or suggest in combination with a pair of substrates having electrodes and vertical alignment layers [200,20,25], a liquid crystal having a negative anisotropy of dielectric constant and inserted between the pair of substrates [see figure 7], alignment control structures arranged in each of said pair of substrates for controlling alignment of the liquid crystal [17,27] and each of said alignment control structures comprising a plurality of constituent units of the alignment control structures of one substrate [see figures 6a and 6b] auxiliary structures formed on at least one of said pair of substrates between the alignment control structures of said pair of substrates as viewed in the direction normal to the substrates.

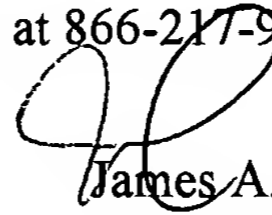
In re claim 31-32, the prior art of record fails to teach or suggest in combination with a pair of substrates having electrodes and vertical alignment layers [200,20,25], a liquid crystal having a negative anisotropy of dielectric constant and inserted between the pair of substrates [see figure 7], alignment control structures arranged in each of said pair of substrates for controlling alignment of the liquid crystal [17,27] and each of said alignment control structures comprising a plurality of constituent units of the alignment control structures of one substrate [see figures 6a and 6b] an alignment control means arranged between the alignment control structures of said pair of substrates in which a parameter changes in one direction from one of the alignment control structures.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Dudek whose telephone number is 571-272-2290. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2871

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



James A. Dudek  
Primary Examiner  
Art Unit 2871